UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/778,764	02/08/2001	Bart Joseph Gerard Pauwels	Q62997	4162

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EXAMINER
RYMAN, DANIEL J

ART UNIT	PAPER NUMBER
2665	

DATE MAILED: 09/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 August 2005*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-6,8-16 and 18-24* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-6,8-16 and 18-24* is/are rejected.

7)☒ Claim(s) *1* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____ .

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments filed 8/10/2005 have been fully considered but they are not

persuasive. Applicant asserts that Calvignac "fails to teach or suggest at least the adaptation of

control data within the data traffic before transmission to comprise at least one reassembly

indicator for use in reassembling the data traffic upon receipt." Examiner, respectfully, disagrees.

Calvignac discloses the adaptation of control data (flags) within the data traffic before

transmission (col. 2, lines 5-15; col. 5, lines 34-56; and col. 7, lines 14-20) where the flags are

manipulated before the data is transmitted, to comprise at least one reassembly indicator (trailer)

for use in reassembling the data traffic upon receipt (col. 2, lines 5-15; col. 5, lines 34-56; and

col. 7, lines 14-20). As such, Examiner maintains that the cited prior art anticipates or renders

obvious the limitations of the pending claims.

Information Disclosure Statement

2.   The information disclosure statement filed 2/8/2001 fails to comply with 37 CFR

1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that

portion which caused it to be listed; and all other information or that portion which caused it to

be listed. It has been placed in the application file, but the information referred to therein has not

been considered. Portions of the Widjaja reference were illegible. Although Applicant indicated

that a clean copy of the Widjaja reference was submitted, this reference was never placed in the

Application. Therefore, Examiner requests that Applicant submits a new copy of this reference

cited in an additional IDS.

Claim Objections

3.   Claim 1 is objected to because of the following informalities: in line 14, "wherein step

(b) comprises" should be "wherein step (b) further comprises". Appropriate correction is

required.

Claim Rejections - 35 USC § 102

4.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5.   Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Calvignac et al.

(USPN 5,557,608).

6.   Regarding claim 1, Calvignac discloses a method of transmitting data traffic received

from a plurality of prioritized sources (col. 3, lines 29-60 and col. 5, lines 21-33), wherein the

method comprises: (a) setting the highest priority source with data traffic waiting for

transmission as current transmission source (col. 3, lines 29-60; col. 4, lines 4-10; and col. 5,

lines 44-56); (b) transmitting the data traffic from the current transmission source until

completion while monitoring the remaining sources for waiting data traffic, wherein if traffic is

detected from a source with a higher priority than the current transmission source, completing

transmission of the minimum transmittable element from the current transmission source prior to

starting transmission of data traffic from the source with higher priority (col. 3, lines 29-60; col.

4, lines 4-10; and col. 5, lines 44-56); (c) upon completion of the transmission of data traffic

from the current transmission source, going to step (a) (col. 3, lines 29-60; col. 4, lines 4-10; and

col. 5, lines 44-56); wherein step (b) further comprises adapting control data (preempt flags) within the data traffic itself before transmission to comprise, where not already present, at least one reassembly indicator (trailer) for use in reassembling the data traffic upon receipt (col. 2, lines 5-15; col. 5, lines 34-56; and col. 7, lines 14-20).

Claim Rejections - 35 USC § 103

7.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8.   Claims 3, 4, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Calvignac et al. (USPN 5,557,608).

9.   Regarding claim 3, Calvignac does not expressly disclose that the minimum transmittable element for traffic of asynchronous and bit-synchronous protocols is a bit. However, Calvignac does disclose that the minimum transmittable element is the size of a block and that the size of the block can be set according to the delay of the real-time traffic (col. 5, lines 20-33). It is generally considered to be within the ordinary skill in the art to adjust, vary, select, or optimize the numerical parameters or values of any system absent a showing of criticality in a particular recited value. The burden of showing criticality is on applicant. In re Mason, 87 F.2d 370, 32 USPQ 242 (CCPA 1937); Marconi Wireless Telegraph Co. v. U.S., 320 U.S. 1, 57 USPQ 471 (1943); In re Schneider, 148 F.2d 108, 65 USPQ 129 (CCPA 1945); In re Aller, 220 F.2d 454, 105 USPQ 233 (CCPA 1055); In re Saether, 492 F.2d 849, 181 USPQ 36 (CCPA 1974); In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); In re Boesch, 617 F.2d 272, 205 USPQ 215

(CCPA 1980). Since Calvignac discloses that the minimum transmittable element is a certain

size, it would have been obvious to one of ordinary skill in the art to vary the size to be any size,

including one bit, absent a showing of criticality by Applicant.

10.   Regarding claim 4, Calvignac does not expressly disclose that the minimum transmittable

element for traffic of slot-synchronous protocols is a slot. However, Calvignac does disclose that

the minimum transmittable element is the size of a block and that the size of the block can be set

according to the delay of the real-time traffic (col. 5, lines 20-33). It is generally considered to be

within the ordinary skill in the art to adjust, vary, select, or optimize the numerical parameters or

values of any system absent a showing of criticality in a particular recited value. The burden of

showing criticality is on applicant. In re Mason, 87 F.2d 370, 32 USPQ 242 (CCPA 1937);

Marconi Wireless Telegraph Co. v. U.S., 320 U.S. 1, 57 USPQ 471 (1943); In re Schneider, 148

F.2d 108, 65 USPQ 129 (CCPA 1945); In re Aller, 220 F.2d 454, 105 USPQ 233 (CCPA 1055);

In re Saether, 492 F.2d 849, 181 USPQ 36 (CCPA 1974); In re Antonie, 559 F.2d 618, 195

USPQ 6 (CCPA 1977); In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Since

Calvignac discloses that the minimum transmittable element is a certain size, it would have been

obvious to one of ordinary skill in the art to vary the size to be any size, including one slot,

absent a showing of criticality by Applicant.

11.   Regarding claim 24, Calvignac does not expressly disclose that the method is

implemented using a computer program product comprising a number of computer executable

instructions. Examiner takes official notice that it is well known in the art to implement a method

using software since software is more flexible than hardware. It would have been obvious to one

of ordinary skill in the art at the time of the invention to implement the method using software since software is more flexible than hardware.

12.   Claims 5, 6, 8-16 and 18-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art in view of Calvignac et al. (USPN 5,557,608).

13.   Regarding claims 5 and 6, Applicant discloses a switch implementing a method where the switch comprises a plurality of memory devices defining queues for receiving traffic to be switched (page 3, lines 6-28) and a processor for controlling the transmission of traffic from the queues to an output (page 3, lines 6-28), the processor being configured to implement the method by transmitting traffic from input queues to the output queues (page 3, lines 6-28), the traffic having a predetermined minimum transmittable element (page 1, line 20-page 2, line 6), wherein the processor is configured to monitor the queues to determine whether traffic has arrived at a queue (page 3, lines 6-28).

Applicant does not expressly disclose that each queue has an associated predetermined priority classification; that the processor monitors the queues to determine whether traffic has arrived at a queue having a higher priority classification than the queue from which traffic is currently being transmitted, and if traffic arrives in a queue that has a higher priority than the queue from which traffic is currently being transmitted, the processor suspends the current transmission after transmission of the minimum transmittable element from the lower priority queue and transmits transmit traffic from the higher priority queue, and subsequently resumes the suspended transmission after completing transmission of the higher priority traffic, wherein, prior to transmission, the processor adapts control data within the traffic itself to comprise, where

not already present, at least one reassembly indicator for use in reassembling the traffic upon

receipt.

Calvignac teaches, in a packet switching system, having a processor, configured to

monitor traffic, preempt low priority traffic located in low priority queues to transmit high

priority traffic located in high priority queues and then resume transmission of the low priority

traffic when there is no high priority traffic in order to ensure that the high priority traffic is not

subject to significant delays (col. 3, lines 29-60; col. 4, lines 4-10; and col. 5, lines 44-56).

Calvignac also transmits data according to blocks (col. 5, lines 20-33). Calvignac further

discloses that the processor adapts control data (preempt flags) within the traffic itself to

comprise, where not already present, at least one reassembly indicator (trailer) for use in

reassembling the traffic upon receipt (col. 2, lines 5-15; col. 5, lines 34-56; and col. 7, lines 14-

20). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the

invention to associate each queue with predetermined priority classification; and to have the

processor monitor the queues to determine whether traffic has arrived at a queue having a higher

priority classification than the queue from which traffic is currently being transmitted, and if

traffic arrives in a queue that has a higher priority than the queue from which traffic is currently

being transmitted, to have the processor suspend the current transmission after transmission of

the minimum transmittable element from the lower priority queue and transmits transmit traffic

from the higher priority queue, and subsequently to resume the suspended transmission after

completing transmission of the higher priority traffic, wherein, prior to transmission, the

processor adapts control data within the traffic itself to comprise, where not already present, at

least one reassembly indicator for use in reassembling the traffic upon receipt in order to ensure that the high priority traffic is not subject to significant delays.

14.   Regarding claim 8, Applicant in view of Calvignac discloses that the reassembly indicators comprise different start ('7E' flag) and end indicators ('7E' flag and trailer) for each cell or packet in the traffic (Calvignac: col. 4, lines 15-16 and col. 5, lines 34-56).

15.   Regarding claim 9, Applicant in view of Calvignac discloses that the reassembly indicators comprise start and length indicators for each cell or packet in the traffic (Applicant: page 1, line 20-page 2, line 6 and Calvignac: col. 4, lines 15-16 and col. 5, lines 34-56).

16.   Regarding claim 10, Applicant in view of Calvignac discloses that the reassembly indicators indicate the queue's priority classification (Bit B5 of the trailer byte) (Calvignac: col. 5, line 65-col. 6, line 9).

17.   Regarding claim 11, Applicant in view of Calvignac discloses that the processor adapts each packet or cell in the traffic received from the queues to include an indication of the queue's priority classification (Calvignac: col. 5, lines 34-56 and col. 5, line 65-col. 6, line 9).

18.   Regarding claim 12, Applicant in view of Calvignac implicitly discloses that the processor stores predetermined details of interrupted traffic transmissions and their respective queues in one of the memory devices and retrieves the details for use in resuming the interrupted transmission once the interrupting transmission is completed (Applicant: page 1, lines 6-26 and page 3, lines 6-28 and Calvignac: col. 3, lines 13-60; col. 4, lines 4-10; and col. 5, lines 44-56).

19.   Regarding claim 13, Applicant in view of Calvignac discloses that a number of outputs, wherein the processor transmits traffic to an appropriate output depending upon the traffic's destination address (Applicant: page 1, lines 6-26 and Calvignac: col. 3, lines 13-27).

20.   Regarding claim 14, Applicant in view of Calvignac does not expressly disclose that the

minimum transmittable element for traffic of asynchronous and bit-synchronous protocols is a

bit. However, Applicant in view of Calvignac does disclose that the minimum transmittable

element is the size of a block and that the size of the block can be set according to the delay of

the real-time traffic (Calvignac: col. 5, lines 20-33). Applicant in view of Calvignac also

discloses that some data is transmitted according to slots rather than packets (Applicant: page 1,

line 20-page 2, line 6). It is generally considered to be within the ordinary skill in the art to

adjust, vary, select, or optimize the numerical parameters or values of any system absent a

showing of criticality in a particular recited value. The burden of showing criticality is on

applicant. In re Mason, 87 F.2d 370, 32 USPQ 242 (CCPA 1937); Marconi Wireless Telegraph

Co. v. U.S., 320 U.S. 1, 57 USPQ 471 (1943); In re Schneider, 148 F.2d 108, 65 USPQ 129

(CCPA 1945); In re Aller, 220 F.2d 454, 105 USPQ 233 (CCPA 1055); In re Saether, 492 F.2d

849, 181 USPQ 36 (CCPA 1974); In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); In re

Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Since Applicant in view of Calvignac

discloses that the minimum transmittable element is a certain size, it would have been obvious to

one of ordinary skill in the art to vary the size to be any size, including one bit, absent a showing

of criticality by Applicant.

21.   Regarding claim 15, Applicant in view of Calvignac does not expressly disclose that the

minimum transmittable element for traffic of slot-synchronous protocols is a slot. However,

Applicant in view of Calvignac does disclose that the minimum transmittable element is the size

of a block and that the size of the block can be set according to the delay of the real-time traffic

(Calvignac: col. 5, lines 20-33). Applicant in view of Calvignac also discloses that some data is

transmitted according to slots rather than packets (Applicant: page 1, line 20-page 2, line 6). It is

generally considered to be within the ordinary skill in the art to adjust, vary, select, or optimize

the numerical parameters or values of any system absent a showing of criticality in a particular

recited value. The burden of showing criticality is on applicant. In re Mason, 87 F.2d 370, 32

USPQ 242 (CCPA 1937); Marconi Wireless Telegraph Co. v. U.S., 320 U.S. 1, 57 USPQ 471

(1943); In re Schneider, 148 F.2d 108, 65 USPQ 129 (CCPA 1945); In re Aller, 220 F.2d 454,

105 USPQ 233 (CCPA 1055); In re Saether, 492 F.2d 849, 181 USPQ 36 (CCPA 1974); In re

Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); In re Boesch, 617 F.2d 272, 205 USPQ 215

(CCPA 1980). Since Applicant in view of Calvignac discloses that the minimum transmittable

element is a certain size, it would have been obvious to one of ordinary skill in the art to vary the

size to be any size, including one slot, absent a showing of criticality by Applicant.

22.   Regarding claim 16, Applicant discloses a switch comprising an input from which a data

stream is received, the data stream comprising interleaved portions of different traffic streams, a

number of output queues and a processor (page 3, lines 6-28) configured to separate the

interleaved traffic into respective ones of the output queues for reassembly of individual traffic

streams from the data stream (page 3, lines 6-28).

Applicant does not expressly disclose that the processor monitors the data stream while

routing a traffic stream to an output queue until the processor detects a start indicator of a new

interleaved portion of traffic stream located after the minimum transmittable element of the

currently received data stream and control data of the new data stream is adapted to comprise at

least one reassembly indicator for use in reassembling the new traffic stream upon receipt,

wherein the processor routes the new interleaved portion to another output queue until the end of

new interleaved portion is determined, thereafter the processor routes prior data stream to the

prior output queue, or until another start indicator of another new interleaved portion of a traffic

stream is detected within the data stream, wherein the processor routes the new interleaved

portion to a further output queue.

Calvignac teaches, in a packet switching system, having a processor, monitor traffic,

preempt low priority traffic to transmit high priority traffic and then resume transmission of the

low priority traffic when there is no high priority traffic in order to ensure that the high priority

traffic is not subject to significant delays (col. 3, lines 29-60; col. 4, lines 4-10; and col. 5, lines

44-56). Calvignac designates the start and end of packets by flags (col. 4, lines 16-33). Calvignac

further discloses that the processor adapts control data (preempt flags) within the traffic itself to

comprise, where not already present, at least one reassembly indicator (trailer) for use in

reassembling the traffic upon receipt (col. 2, lines 5-15; col. 5, lines 34-56; and col. 7, lines 14-

20). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the

invention to have the processor monitor the data stream while routing a traffic stream to an

output queue until the processor detects a start indicator of a new interleaved portion of traffic

stream located after the minimum transmittable element of the currently received data stream and

control data (preempt flags) of the new data stream is adapted to comprise at least one

reassembly indicator (trailer) for use in reassembling the new traffic stream upon receipt,

wherein the processor routes the new interleaved portion to another output queue until the end of

new interleaved portion is determined, thereafter the processor routes prior data stream to the

prior output queue, or until another start indicator of another new interleaved portion of a traffic

stream is detected within the data stream, wherein the processor routes the new interleaved

portion to a further output queue in order to ensure that the high priority traffic is not subject to significant delays.

23.   Regarding claim 18, Applicant in view of Calvignac that the end of an interleaved portion of traffic is determined in dependence on a portion length indicator within the interleaved portion of traffic (Applicant: page 1, line 20-page 2, line 6).

24.   Regarding claim 19, Applicant in view of Calvignac discloses that the end of an interleaved portion of traffic is determined from end indicator within the data stream (Applicant: page 1, line 20-page 2, line 6 and Calvignac: col. 2, lines 3-15 and col. 5, lines 34-56).

25.   Regarding claim 20, Applicant in view of Calvignac discloses that each interleaved portion of traffic comprises a priority indicator (Calvignac: col. 3, lines 28-46), wherein the end of an interleaved portion of traffic is determined from a drop in level of the priority indicator (Calvignac: col. 3, lines 31-34; col. 5, lines 43-56; and col. 5, line 65-col. 6, line 9).

26.   Regarding claim 21, Applicant in view of Calvignac discloses that each interleaved portion of traffic comprises a priority indicator (Calvignac: col. 3, lines 28-46), wherein a start indicator comprises a rise in the level of the priority indicator (Calvignac: col. 3, lines 31-34; col. 5, lines 43-56; and col. 5, line 65-col. 6, line 9).

27.   Regarding claim 22, Applicant in view of Calvignac suggests that the processor operates as state machine (Figs. 11 and 12 and col. 7, lines 8-col. 8, line 5, esp. col. 7, line 45-col. 8, line 5) where the use of the word "state" in the description suggests a state machine.

28.   Regarding claim 23, Applicant in view of Calvignac discloses a telecommunications network comprising a claimed switch (Applicant: page 1, lines 6-14 and Calvignac: col. 3, lines 13-22).

Conclusion

29.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure. Ellis et al. (USPN 5,497,371) see entire document which pertains to interrupting low

priority data to transmit high priority data. Hayter et al. (USPN 5,677,906) see entire document

which pertains to interrupting low priority data to transmit high priority data. Jardine (USPN

5,619,647) see entire document which pertains to interrupting low priority data to transmit high

priority data. Petersen et al. (USPN 5,802,051) see entire document which pertains to

interrupting low priority data to transmit high priority data.

30.   Applicant's amendment necessitated the new ground(s) of rejection presented in this

Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

        A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this
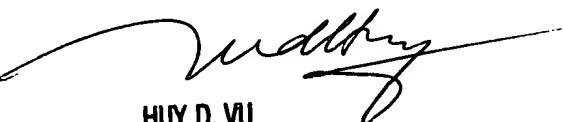
final action.

        Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Daniel J. Ryman whose telephone number is (571)272-3152. The

examiner can normally be reached on Mon.-Fri. 7:00-4:30 with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Huy Vu can be reached on (571)272-3155. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Daniel J. Ryman
Examiner
Art Unit 2665

HUY D. VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600